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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/194,562	04/09/99	LEIJON M	705/71502-27

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EXAMINER
ENAD, E

ART UNIT	PAPER NUMBER
2834	

DATE MAILED: 05/04/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/194,562

Applicant(s)

Leijon et al.

Examiner

Enad, Elvin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Mar 14, 2001.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 10-19 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-8 and 10-17 is/are allowed.
- 6) ☒ Claim(s) 18 and 19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☐ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____
- 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other:

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DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 18 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Shildneck (USP 3014,139) in view of Siemens (German Patent 468,827) and Elton et al. (USP 4,853,565).

Shildneck and Siemens disclose the claimed invention except for having a cable winding comprised of at least one semiconducting layer around the conductor. Shildneck discloses an improved continuous winding for an electromagnetic device such as a large turbine-driven generator, the winding employing an improved form of flexible insulated conductor for the laminated armature core of the dynamo-electric machine. As seen in figure 3 and as explained in detail in column 5, lines 11-26, the winding **18** enters and passes through inner passage (slot) **15** and passes around approximately one-half of the stator circumference and enter the outer conductor passage (slot) on the opposite side of the stator core.

Siemens teaches that it is known to have a stator having cylindrical opening winding slots with increasing radius in order to accommodate winding conductors having varying diameters. The diameter of the winding conductors vary due to the thickness of insulation.

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Elton et al. teach that it is known to have an electrical cable comprising an internal grading layer of semi-conducting pyrolyzed glass fiber layer in electrical contact with the cable conductor. In another form of embodiment, Elton et al. teach an electrical cable provided with an exterior layer of internal grading layer of semi-conducting pyrolyzed glass fiber layer in contact with an exterior cable insulator with a predetermined reference potential.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the cable winding as taught by Elton et al. to the dynamo electric machine of Shildneck in view of Siemens since such a modification according to Elton et al. would prohibit development of corona discharge.

3. Claim 19 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Shildneck (USP 3014,139) in view of Siemens (German Patent 468,827) and Elton et al. (USP 4,853,565) and further in view of Breitenbach et al. (USP 4,785,138).

Shildneck in view of Siemens and Elton et al. disclose the claimed invention except for having an outer metal screening and a sheath in the winding cable.

Breitenbach et al. teach that is known to use an outer metal screening and sheath in an electrical cable.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the metal screening and sheath as taught by Breitenbach et al. to the device as disclosed by Shildneck in view of Siemens and Elton et al. since such a modification

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according to Breitenbach et al. in column 2, lines 32-44 would provide shielding as well as increase cable reliability.

Allowable Subject Matter

4. Claims 1-8 and 10-17 are allowed. Claim 1 is allowable due to the particular winding of the stator, the winding comprising of a cable passing to and from once through the stator between different layers forming a corresponding coil, each of the coils bridging a corresponding number of slots and divided into coil group parts and the same group coil arranged axially, one outside the other with substantially coinciding centers and with successively increasing diameters.

Response to Arguments

5. Applicant's arguments filed on March 14, 2001, have been fully considered but they are not persuasive.

Applicant provided various arguments as to why the combination were not obvious, since the references fail to teach or suggest motivations for combining the referenced prior arts.

Applicant asserts that Elton et al. ('565) disclose generally the use of semi-conducting layer for insulated electrical conductors in various embodiments. Moreover, applicant argues that in Elton et al. ('565) the conductors of the dynamoelectric machine are referred to exclusively as "windings" or "bars", and when referring to an electrical cable for carrying high voltage, Elton et al. ('565) refer to the conductors as "cable" not a "winding" or "bar". Applicant concludes that when the disclosure is taken together, the conductor designated in Elton et al. ('565) relates to an

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generally made of laminations which define circumferentially spaced radial slots opening into the bore. Disposed in the slots are heavily insulated electrical windings causing a high electrical potential to exist between the windings or armature bars and the members of the stator defining the slots which are at an electrical ground. Accordingly, when the semiconducting layer is in electrical contact with the electrical ground, the layer prohibits the development of corona discharge and bleeds off any electric charge developed on the exterior surface of an insulated conductor.

Since other variations of dynamoelectric machines designed for high voltage applications such as Siemens and Shildneck utilize rounded cables for its windings in the stator core slots, why would one skilled in the art not use the semiconducting layers and modify the existing cable? Or why would one skilled in the art not utilize a cable similar to the one disclosed by Elton et al.?

It is noted that Elton et al. also teach the number of semiconducting layers applied may vary depending on the design requirements.

Moreover, applicant's argument limiting the use of the electrical "cable" for electrical transmission and distribution only is not well understood. As defined by Webster's II New Riverside University dictionary, a cable is "a bound or sheathed group of mutually insulated conductors". The windings in the dynamoelectric machine, including those for high voltage applications, use these type of conductors for electrical transmission.

Examiner disagrees with applicant's argument that the cable of Elton et al. ('565) is stiff due to the presence of the semiconducting layer made of pyrolyzed glass layer. The rigidity of a

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conductor cable primarily depends on the type of insulation used. Shildneck for instance, in column 2, lines 28-30 teaches that the rigidity of the conductor bars depend on the type of insulation used. Shildneck uses silicone-rubber insulation in his flexible cable. Moreover, as is known in power cables, cable flexibility primary depends upon the use of ethylene-propylene (EPM) and ethylene-propylene-diene (EPDM) rubbers as insulation rather than of the semi-conducting layer.

Elton et al. ('565) in column 8, lines 3-9, teach that the semi-conducting pyrolyzed glass layer can be chopped, mixed with resin and molded or blown on any complex shaped substrate so that the layer can be placed in intimate contact with substantially all of the exterior surface of the insulator or housing. As such, examiner believes the semi-conducting layer is not the cause of the rigidity of the cable.


Conclusion

6. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elvin Enad whose telephone number is (703) 308-7619.
8. Any inquiry of a general nature or relating to the status of this application should be directed to the Group Receptionist whose telephone number is (703) 308-0956. The fax phone number for this Group is (703) 305-3431 (32).



Elvin Enad
Primary Examiner
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05.01.2001